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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,944	10/06/2006	Laurent Caron	FR-AM 2023 NP1	5455
31684	7590	07/21/2011	EXAMINER	
ARKEMA INC. 900 First Avenue Bldg 4-2 King of Prussia, PA 19406			RIOJA, MELISSA A	
			ART UNIT	PAPER NUMBER
			1767	
			NOTIFICATION DATE	DELIVERY MODE
			07/21/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/593,944

Applicant(s)

CARON, LAURENT

Examiner

MELISSA RIOJA

Art Unit

1767

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/6/2006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7, 8, and 10 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 – 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **Claims 2 - 5** set forth amounts of the

compounds in terms of weight percentages; however, it is unclear to what these weight percentages are relative. For the purposes of further examination, Claims 2 -5 will be interpreted as setting forth the amounts of the compounds in weight percentages, wherein the sum of 365mfc, trans-1,2-dichlorethylene and 134a and/or 227ea equals 100 weight percent.

Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **Claim 7** recites the limitation "the expanding agent according to Claim 1." There is insufficient antecedent basis for this limitation in the claim. For the purposes of further examination, Claim 7 will be interpreted as referring to the composition of Claim 1.

Claims 7, 8, and 10 are also rejected under 35 U.S.C. 112 second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. **Claims 7 and 10** provide for the use of the composition of Claim 1, but, since the claims do not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. For the purposes of further examination, Claim 7 will be interpreted as setting forth a thermosetting polymer foam

comprising the composition of Claim 1. Claim 10 will be interpreted as setting forth a solvent, aerosol, or cooling agent comprising the composition of Claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2003/0220218 to Fitzgerald.

Regarding Claim 1. Fitzgerald teaches a composition comprising 1,1,1,3,3-pentafluorobutane (365mfc) and *trans*-1,2-dichloroethylene (*t*-1,2-DCE) (Paragraph 25). The composition may further comprise tetrafluoroethane (HFC-134a) (Paragraph 26).

Regarding Claim 2. Fitzgerald teaches the composition of Claim 1. Fitzgerald teaches the composition is composed of a cleaner, comprising 365mfc and *t*-1,2-DCE, and a propellant. 365mfc represents 10 to 80 weight percent of the cleaner, while *t*-1,2-DCE represents 10 to 60 weight percent. The propellant consists of HFC-134a and may represent, in one embodiment, about less than 5 weight percent to about 50 weight percent of the cleaner/propellant composition (Paragraphs 16 and 26). The remainder of

the cleaner/propellant composition would thus be the cleaner. Based upon the amounts given for 365mfc and *t*-1,2-DCE in the cleaner alone: it can be calculated that the cleaner/propellant composition comprises roughly 5 – 76 weight percent 365 mfc, 5 – 57 weight percent *t*-1,2-DCE, and about less than 5 to about 50 weight percent HFC-134a.

Regarding Claim 6. Fitzgerald teaches the composition of Claim 1 but does not expressly teach the composition functions as an expanding agent. Consequently, the Office recognizes that all of the claimed effects or physical properties are not positively stated by the reference(s). However, the reference(s) teaches a product prepared with all of the claimed ingredients in the claimed amounts by a substantially similar process. According to the original specification, a composition comprising the claimed ingredients functions as an expanding agent. Therefore, the claimed effects and physical properties, i.e. a composition that functions as an expanding agent, would implicitly be achieved by a composition with all the claimed ingredients in the claimed amounts prepared by a similar process. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure as to how to obtain the claimed properties with only the claimed ingredients, claimed amounts, and substantially similar process.

Regarding Claim 10. Fitzgerald teaches an aerosol composition comprising the composition of Claim 1 (Paragraphs 25 and 26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/0220218 to Fitzgerald.

Regarding Claims 4 and 5. Fitzgerald teaches the composition of Claim 1. Fitzgerald teaches the composition is composed of a cleaner, comprising 365mfc and *t*-1,2-DCE, and a propellant. 365mfc represents 10 to 80 weight percent of the cleaner, while *t*-1,2-DCE represents 10 to 60 weight percent. The propellant consists of HFC-134a and may represent, in one embodiment, about less than 5 weight percent to about 50 weight percent of the cleaner/propellant composition (Paragraphs 16 and 26). The remainder of the cleaner/propellant composition would thus be the cleaner. Based upon the amounts given for 365mfc and *t*-1,2-DCE in the cleaner alone: it can be

calculated that the cleaner/propellant composition comprises roughly 5 – 76 weight percent 365 mfc, 5 – 57 weight percent *t*-1,2-DCE, and about less than 5 to about 50 weight percent HFC-134a.

With regard to the amounts of 365 mfc, *t*-1,2-DCE, and HFC-134a, it is noted that each of the ranges set forth in Claim 4, as well as the ranges disclosed for 365 mfc and HFC-134a in Claim 5, lies within that disclosed by Fitzgerald. It has been held that where the claimed ranges overlap or lie inside ranges disclosed by the prior art a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976) (MPEP 2144.05) Furthermore, the experimental modification of this prior art in order to ascertain optimum operating conditions fails to render applicants' claims patentable in the absence of unexpected results. *In re Aller*, 220 F.2d 454, 105, 105 USPQ 233 (CCPA 1955) (MPEP 2144.05) At the time of the invention, it would have been obvious to a person of ordinary skill in the art to optimize the amounts of 365 mfc, *t*-1,2-DCE, and HFC-134a used, for example, to achieve a level of "aggressiveness" suitable for the cleaning composition's intended use (Fitzgerald: Paragraph 19) A *prima facie* case of obviousness may be rebutted, however, where the results of the optimizing variable, which is known to be result-effective, are unexpectedly good. *In re Boesch and Slaney*, 617 F.2d 272, 205, 205 USPQ 215 (CCPA 1980) (MPEP 2144.05)

Claims 1 - 3 and 5 - 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,080,799 to Kruecke et al. in view of US 2004/0132631 to Galaton et al.

Regarding Claims 1 - 3, 5, and 6. Kruecke et al. teaches a blowing/expanding agent composition comprising 50 - 99 weight percent 365mfc and additionally comprising 1 to 50 weight percent of a hydrocarbon, wherein the hydrocarbon may be 1,1,1,2,3,3,3-heptafluoropropane (227ea) (Column 1, Lines 54 - 60).

Kruecke et al. does not teach the composition further comprises *t*-1,2-DCE. However, Galaton et al. teaches adding *t*-1,2-DCE to hydrofluorocarbon compositions such as those comprising 365mfc (Paragraph 3). Kruecke et al. and Galaton et al. are analogous art as they are from the same field of endeavor, namely hydrofluorocarbon compositions suitable for use as blowing agents in polymer foams. At the time of invention, it would have been obvious to a person of ordinary skill in the art to add *t*-1,2-DCE in the amount taught by Galaton et al. to the composition taught by Kruecke et al. This would correspond to a composition that is roughly 1 - 40 weight percent *t*-1,2-DCE, 0.6 - 47.5 weight percent 365 mfc, and 30 - 94.05 weight percent 227ea. The motivation would have been that the addition of *t*-1,2-DCE in the amount taught by Galaton et al. improves the fire performance and global warming potential of hydrofluorocarbon-blown foams (Galaton et al.: Paragraph 4).

Regarding Claim 7. Kruecke et al. teaches a polyurethane foam comprising the blowing/expanding agent composition of Claim 1 (Paragraph 5).

Regarding Claim 8. Kruecke et al. teaches the polyurethane foam of Claim 7 wherein the foam is made by mixing/reacting an A-side comprising a polyisocyanate and a B-side comprising a polyol (Paragraph 7).

Regarding Claim 9. Kruecke et al. teaches the composition of Claim 7 may be incorporated into a polyol mixture ("B-side") (Paragraph 6).

Conclusion

The art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited references pertain to compositions comprising one or more of the claimed compounds.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MELISSA RIOJA whose telephone number is (571)270-3305. The examiner can normally be reached on Monday - Friday 7:00 AM - 3:30 PM E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571)272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MAR/
July 7, 2011

/Mark Eashoo/

Supervisory Patent Examiner, Art Unit 1767